

## Worksheet: Charging by Friction, Contact & Induction

When trying to explain what happens when an object is charged by static electricity, it is helpful to draw a diagram. Draw a series of diagrams that show the distribution of charges on each object.

1. A glass rod is rubbed with a silk cloth. Show the rod and silk before and after rubbing.
2. The glass rod from (1) is brought near, and then in contact with, a neutral pith ball. Show the rod and pith ball before and after contact.
3. The silk cloth from (1) is brought near (but does not touch) the charged pith ball from (2).
4. A negatively charged rubber rod is brought near (but does not touch) an iron rod that is connected to a faucet by a wire.
5. The wire from (4) is disconnected from the iron rod while the rubber rod is held near. Then the rubber rod is moved away. Show the iron rod after disconnection (when the rod is removed).

Which situations (1 to 5) are examples of charging by:

- |               |       |                          |       |
|---------------|-------|--------------------------|-------|
| (A) friction? | _____ | (C) temporary induction? | _____ |
| (B) contact?  | _____ | (D) permanent induction? | _____ |